NEW REPORTS OF *EURYBIA* AND *ASTER* S.STR. (ASTERACEAE: ASTEREAE) FROM CALIFORNIA, IDAHO, AND WYOMING

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ABSTRACT

I am reporting two new records of *Eurybia merita* (A. Nelson) G.L. Nesom for California (Siskyou County), and new records of *Aster alpinus* L. subsp. *vierhapperi* Onno for Idaho (Lost River Range) and Wyoming (Beartooth Pass).

RESUMEN

Se hacen dos nuevas citas de *Eurybia merita* (A. Nelson) G.L. Nesom de California (Siskyou County), y dos nuevas citas de *Aster alpinus* L. subsp. *vierhapperi* Onno de Idaho (Lost River Range) y Wyoming (Beartooth Pass).

INTRODUCTION

While reviewing herbarium material in preparation of the treatments of *Aster* L. s. str. and *Eurybia* (Cassini) S.F. Gray for the Flora of North America project, I came across specimens that represent new records for California, Idaho, and Wyoming.

Eurybia merita (A. Nelson) G.L. Nesom

CALIFORNIA. Siskyou Co.: Metcalf's ranch, northeast base of Mt. Eddy, in moist soil in the forest, 3900 ft, 30 Jul 1936, *Heller 12206* (MO); Mountains, 6000 ft, 5 Aug 5 1882, *Pringle 14590* (MO).

The two specimens I was able to examine are both typical *E. merita*, with purple-margined phyllaries and subserrate leaves, among other features. The Heller specimen was originally determined as *Aster* sp. and later annotated to *Aster radulinus* A. Gray by A.G. Jones. The Pringle specimen was identified as *Aster sibiricus* L. var. (=*A. montanus* Rich.; a form approaching *A. radulinus* A. Gray). Identification of both specimens as *E. radulina* (A. Gray) G.L. Nesom is not unexpected given that *E. merita* had not been reported for California (e.g., Allen 1993) and that taxonomic confusion exists between the two species. Yet, examination of a wide range of specimens in the course of preparation of the *Eurybia* treatment for FNA reveals that the two taxa are distinct (I have yet to find hybrid or intermediate material) and clearly identifiable using the following combination of features:

Stems ascending to erect, ± densely villous distally, leaf margins coarsely serrate (teeth mucronate), cauline often clasping; phyllaries without purple margins; rays white (sometimes purplish) _____ **Eurybia radulina**

Stems decumbent to ascending, villosulous distally; leaf margins entire to subserrate or ± serrate, cauline subauriculate or slightly clasping; phyllaries graduated, purple on margins; rays purple (sometimes pale) _____ **Eurybia merita**

In the flora of the Pacific Northwest, Cronquist (1955) stated that smaller forms of *E. radulina* (as *Aster*) with purple rays and anthocyanic involucres were difficult to distinguish from *E. merita* (as *A. sibiricus* var. *meritus*). He then mentioned ecological and geographical separation to advocate segregation of the two taxa and also observed that larger forms of the latter are very distinct from *E. radulina*. Part of the problem may lie (I have been unable to verify this) with the fact that some small individuals of *E. merita* may have been misidentified as *E. radulina*, causing confusion, and from the fact that the ranges of the two species (as exemplified by the records cited above) may not be as disjunct as initially envisioned by Cronquist and others. Though I did not find anthocyanic specimens of *E. radulina* during my study (admittedly a small sample of all material potentially available), the distribution of purplish coloration on the phyllaries of this species (if they ever are purplish) may differ from the typically purplish phyllary margins of *E. merita*. Cronquist (loc. cit.) did not address this issue. Further complicating the problem is the confusion between *E. merita* and *E. sibirica*, a species that barely reaches the conterminous United States. The definition of the range of characters of *E. merita* due to its inclusion within *E. sibirica* may have rendered its delimitation more difficult and thus less efficient. The recognition that *E. merita* is a species distinct from *E. sibirica* is crucial to our understanding of the former.

Given our current knowledge of the distribution of *Eurybia merita* in California, it appears to be of conservation concern in the state. Further study of *E. radulina* specimens in California herbaria may yield further localities for *E. merita* and provide more precise data as to its habitat and distribution there.

Aster alpinus L. subsp. **vierhapperi** Onno

IDAHO. Custer Co.: Lost River Range, Challis National Forest, ridge between two forks of upper Grouse Creek, ca. 1.5 mi W of Grouse Creek Mt., ca 19 mi N of Dickey; T12N R21E S23 NE1/4, 9900 ft, 14 Aug 1984, *Moseley 533* (RM). **WYOMING. Park Co.:** Beartooth Pass, US-212, 10940 ft, 5 Sep 1979, *Semple & Brouillet 4432* (MT, WAT).

Aster alpinus subsp. *vierhapperi* has not been reported from the floras of Idaho (Davis 1952) and Wyoming (Dorn 1977; Nelson & Hartman 1994; R.L. Hartman, pers. comm. 2003) (see also, e.g., USDA-NRCS 2002, NatureServe 2003). The Moseley specimen was identified as *Aster sibiricus* var. *meritus*, while the Semple and Brouillet specimen was correctly identified but went unreported.

The species is easily recognized by its rosette leaves, single heads with subequal, foliaceous phyllaries, and obconic, flattened, 2-nerved, puberulent,

apically glandular cypselae. Yet misidentifications abound with other species of asters, as well as, mostly, with species of *Erigeron*. The Idaho and Wyoming populations fill the gap between the southern Canadian populations of this species in Alberta and the Colorado locations (e.g., Hartman & Nelson 2001). All southern populations are at high elevations in the mountains, which may explain the rarity of records. Given that the Wyoming population is near the border with Montana and given the elevation of mountain ranges there, it is expected that collections of this taxon have been or will be made in this state; it should actively be sought there. Examination of *Erigeron* and other "aster" material from Idaho, Wyoming, Montana, and Colorado may yield further locations. Given the current state of our knowledge, *Aster alpinus* should be considered of conservation concern in Idaho and Wyoming.

CONCLUSION

The discovery of these new state records in well known states such as California, Idaho, and Wyoming from examination of herbarium specimens underscores the importance of herbaria and the value of revisionary and floristic work such as the Flora of North America project to our understanding of the continent's biodiversity.

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